

Revision of the Neotropical Acanthocinini (Coleoptera: Cerambycidae) I. The genus *Canidia* and its allies

By LAWRENCE S. DILLON

(Continued from p. 149)

PSEUDOCANIDIA Dillon, gen. nov.

Type of genus: *Pseudocanidia cuernavacae* Dillon, spec. nov.

Moderate-sized, slender, subdepressed beetles. Head impunctate, except on vertex between upper lobes of eyes; front parallel-sided except below eyes, where it is rather strongly narrowed, distinctly convex, one-fifth wider than high; eye with lower lobe oblong, erect, subequal to gena in height, isthmus rather narrow, upper lobe feebly wider than isthmus, strongly arcuate; antennal tubercles robust, distinctly divergent apically. Pronotum one-fourth wider across lateral tubercles than long, but distinctly longer than width of base, the sides being somewhat narrowed on basal fourth; lateral tubercles small but evident, armed at basal third of pronotum with a rather long, straight, oblique tooth or short spine; transverse sulci wanting; disk with three conspicuous tubercles, the median one slightly more prominent, entire surface finely, uniformly, and densely punctate. Elytra with basal gibbosity small, made prominent by a pronounced cariniform crest; disk fairly densely covered with rather fine punctures, which are somewhat denser on basal fourth, with two or three costae, one along edge of declivity, the remainder variable in position, often especially prominent just behind base near humerus, basally with a few flying hairs; apices separately, acutely rounded or strongly obliquely truncate. Prosternal process about one-seventh as broad as a procoxal cavity; mesosternal process nearly twice as broad as that of the prosternum, posteriorly feebly expanded. Fifth abdominal sternite one-third (in male) to one-half (in female) again as long as fourth, apex truncate in female, triangularly emarginate in male. Legs successively much longer from front to rear, the front ones quite short; femora strongly clavate, but

to a lesser degree in female, metafemora attaining apex of fourth sternite in female, middle of fifth in male; metatarsi with first segment equal to next two combined. Antennae slightly longer than body in female, up to one-third again as long as body in male, beneath with isolated fringing hairs on first two or three segments; scape slender, elongate, nearly attaining pronotal base in both sexes, gradually thickened to apical third, thence nearly parallel-sided to apex, not flattened nor carinate, but before apex ventro-laterally broadly constricted, apical process prolonged, more less broadly and obtusely triangular; third segment arcuate (in profile), slightly longer than first; remaining segment successively shorter.

Remarks: This genus is closely related to *Canidiopsis* but is at once distinct in the form of the antennal scape. Here that organ is neither carinate nor flattened beneath, being cylindrical throughout, but before its apex ventro-laterally it is broadly constricted or emarginate. In addition the body form is more elongate, the pronotal disk is distinctly trituberculate and finely, densely punctate throughout, the metafemora are more elongate, the fifth sternite is more elongate in both sexes but especially in the male, the lower ocular lobe is oblong and subequal to the gena, the elytra are distinctly carinate, and the shape of the apical process on the scape is different. In addition, the elytral apices are separately rounded or strongly, obliquely subtruncate at suture.

***Pseudocanidia cuernavacae* Dillon, spec. nov.**

Male. Piceous, densely covered with hoary pubescence, strongly tinged with olivaceous. Head on front, antennal scape, femora, tibiae, and abdomen strongly, coarsely mottled with dark brown; sterna indistinctly so. Pronotum medially with a gray-brown area, which is somewhat expanded on anterior third, the basal two-fifths margined with fuscous, the median line hoary, nearly entire; sides below lateral tubercles indistinctly tinged with gray-brown. Scutellum near each side with a rather broad, oblique, fuscous vitta. Elytra extensively tinged with olivaceous, except on and behind humerus and on basal

gibbosity; a little behind middle with an inverted, indistinct, hoary-gray, V-shaped marking which in great part encloses an irregular fuscous macula; disk with four linear series of minute fuscous maculae, that along suture most closely spaced, but for the most part the maculae are quite widely separated, with about 6 to 15 to a row. Tarsi entirely hoary. Antennae with third segment imperceptibly mottled with brownish, very narrowly annulate with dark brown at apex; segments wanting from fourth.

Entire upper surface minutely punctulate. Head with front one-fifth wider than high, parallel-sided above, distinctly narrowed below eyes, feebly convex, impunctate; eye with lower lobe oblong-ovate, erect, one-fifth again as tall as gena. Pronotum about one-fifth again as wide across lateral tubercles as long, distinctly narrowed on basal fourth; lateral tubercles situated at basal third, feebly elevated, armed with a rather long, slender, obtuse tooth that is directed slightly caudad; disk with three moderate-sized, rounded, prominent tubercles, the posterior one a little more strongly elevated than the others, entire surface uniformly, densely, finely punctate. Elytra with basal gibbosities rather feeble, provided basally with a coarse, strongly prominent, bituberculate carina; disk covered with very regularly spaced, moderate-sized punctures, except on anterior part of humeri, the punctures gradually finer and less distinct behind middle, obsolete on apical fifth, with two feeble carinae on apical two-thirds; apices strongly obliquely subtruncate, the angles rounded, not prominent. Metafemora extending about to middle of fifth sternite, strongly clavate. Antennae one-fourth to one-third longer than body, with a very few long setae; scape nearly attaining base of pronotum, slender, the apical process not very prominent, triangular, with its apex broadly rounded; third segment feebly longer than scape, arcuate; rest gradually shorter.

Female. As male but metafemora only reaching to apex of fourth sternite, rather slender; antennae feebly longer than body.

Length 7.7–11.3 mm.; width 1.8–3.0 mm.

Holotype male and *allotype* female; Cuernavaca, MEXICO [USNM]. *Paratypes*: 5; Cuernavaca, Mexico [USNM]. 1; Cuernavaca, Mexico, Aug. 7, 1938 [LL]. 1; Cuatha, Morelos,

Mex., July 28, 1938 [LL]. 1; Chilpancingo, Guerrero, Mex., 4,000 ft. [AMNH].

Remarks: The distinct dark patch on the pronotal disk, outlined with fuscous basally, the fine, dense punctation of the entire pronotum, the maculation of the elytra, and the lack of basal annulations on the antennae will serve to distinguish this species.

CANIDIOPSIS Dillon, gen. nov.

Type of genus: *Canidia mexicana* Thomson.

Moderate-sized, subcylindrical beetles. Head impunctate; front distinctly narrowed between eyes, below eyes sides slightly constricted to mouth, usually strongly convex; eyes with lower lobe oblong, erect, one-fourth or so taller than gena, upper lobes narrow, scarcely wider than isthmus, separated by more than three times their width; antennal tubercles robust, not very prominent, strongly divergent apically. Pronotum from one-eighth to nearly half again as wide across lateral tubercles as long, narrowed on basal fourth; lateral tubercles small, not prominent, located at basal third or two-fifths, ending in a long, slender, oblique tooth; transverse sulci wanting; disk feebly trituberculate, the tubercles low and small, the median one more prominent than the others, entire surface sparsely, irregularly punctate. Elytra with basal gibbosity feeble but evident, armed with a rather robust, cariniform process that sometimes bears low tubercles; disk entirely punctate, the punctures simple, confused, not dense, with two or three more or less distinct, abbreviated or interrupted costae; the basal crest and often much of disk sparsely sprinkled with long, flying hairs, those on base long and denser; apices broadly, subobliquely truncate, the angles not produced; humeri prominent, rounded, often impunctate. Prosternal process about one-seventh as wide as a procoxal cavity, simple; mesosternal process about twice as wide as the prosternal, posteriorly feebly expanded. Fifth abdominal sternite in male slightly longer, in female much longer, than fourth. Legs successively longer from front to rear, the forelegs quite short, the hind ones long; metafemora extending at least near apex of fourth sternite; protarsi dilated in male, metatarsi with first segment feebly longer than next two in both

sexes. Antennae slightly longer than body in female, one-fourth or one-third longer in male, with a very few long hairs beneath on basal segments; scape reaching to or slightly behind basal third of pronotum, slender, gradually thickened apically, ventrolaterally with two low carinae bordering a flat area, apical process broad, parallel-sided, its apex broadly subtruncate; third segment subequal to first, especially in male, often distinctly longer than it in female; rest decreasing in length.

Remarks: From *Canidia* this genus is distinct in having the elytral apices broadly truncate, in the shorter metafemora, and in having the elytra bearing a cariniform crest at base. From *Dectes* it is most distinct in having this crest and in lacking almost all flying hairs on elytra, except notably at base, as well as in the form of the antennal scape and in the trituberculate pronotal disk.

Key to Species

1. Antennae and legs devoid of mottling of any sort; entire body uniformly covered with clear pale gray pubescence *canescens*
 Antennae and legs at least indistinctly mottled with brown or fuscous; body not entirely bright gray pubescent. 2.
2. Elytra dull ashy pubescent, varied with white and finely peppered with fuscous, the white forming an inverted chevron near middle of each disk and often another behind base. *mexicanus*
 Elytra entirely dull ashy or brown-ashy pubescent, not peppered with fuscous and devoid of white pubescence; rarely an indistinct inverted chevron of pale ashy near middle. 3.
3. Antennae, femora, and tibiae distinctly mottled with fuscous; elytra usually brown ashy. *similis*
 Antennae, femora, and tibiae with scarcely visible brown mottling; elytra dull ashy gray pubescent. *hebes*

Canidiopsis mexicanus Thomson

Canidia mexicanus Thomson, 1860, Class. Cerambycides, p. 14.
Dectes mexicanus Thomson. Bates, 1881, Biol. Centr. Amer., Col. V, p. 174 [*ex parte*].

Male. Fuscous, densely covered with bright ashy pubescence, strongly clouded with olivaceous or dark brown on pronotal

disk and elytra. Head on front and behind eyes, antennal scape, and third segment, body beneath, and legs (except tarsi) heavily mottled with dark brownish; remaining antennal segments and tarsi faintly mottled with lighter brown. Pronotum often with median line narrowly ashy, usually much interrupted. Elytra sprinkled all over with whitish points, arranged in an inverted V at middle and often forming short linear series on apical third, especially along suture. Antennae with apical thirds of segments beginning with third, and basal fourths of fourth and following segments, fuscous annulate.

Entire upper surface minutely punctulate. Head with front one-tenth wider than high, strongly tumid, impunctate; eye with lower lobe distinctly taller than gena, oblong, erect. Pronotum one-third again as broad across lateral tubercles as long, slightly narrowed on basal fourth; lateral tubercles quite small, placed at basal third, armed with a long, slender, acute tooth that is directed obliquely posteriorly at about a 45° angle with sides; disk with three small, low tubercles about equal in size and elevation, entire surface irregularly covered with moderate-sized punctures, which are denser medially and on extreme sides, sides devoid of punctures below lateral tubercles. Elytra with basal gibbosity moderately prominent, with a low, broad crest, which may bear a few indistinct granules; disk deeply, rather coarsely and densely punctate, the punctures denser immediately behind basal gibbosity than on basal fourth, becoming slightly finer apically but distinct nearly to extreme apex, with two poorly defined costae on apical third; apices somewhat variable, broadly subtruncate or slightly obliquely, broadly truncate, the external angle rounded or somewhat prominent. Metafemora nearly attaining apex of fifth sternite; fifth sternite longer than fourth, its apex broadly, triangularly emarginate. Antennae one-third again as long as body, the sixth segment nearly attaining elytral apex, with one or two fringing hairs beneath on first few segments; scape extending almost to basal margin of pronotum, slender, slightly clavate to apical third, then tapering to apex, apical process broad, broadly truncate at tip; third segment subequal to first, arcuate; fourth and fifth successively much shorter, rest gradually diminishing in length.

Female. More robust than male; metafemora scarcely surpassing apex of fourth sternite; fifth sternite tapering apically, nearly as long as preceding two together, apex squarely truncate; antennae scarcely longer than body, scape attaining basal fourth of pronotum, distinctly shorter than third.

Length 9.5–11 mm.; width 3–3.6 mm.

Type locality: Mexico. Distribution: Mexico. Mexico: 14; Cuernavaca (Wickham) [USNM; LL]. 1; Tamazunchale, San Luis Potosi, May 20, 1952 (Cazier, Gertsch & Schrammel) [AMNH]. 1; Jacaba, Hidalgo, Vulgll, 1939 [LL]. 1; Ixmiquilpan, Hidalgo, July 12, 1939 [LL].

Remarks: From its congeners this species may be distinguished by the irregular punctation of the pronotum, by the low, weakly crested elytral basal gibbosity, by the elytra being more densely punctate behind basal gibbosity than on basal fourth, and by these organs being sprinkled with white flecks, some of the flecks forming an inverted 'V' and several apical lines.

***Canidiopsis similis* Dillon, spec. nov.**

Male. Fuscous, densely covered with dull brown-ashy or olivaceous ashy pubescence. Head on front, antennal scape, femora, and sometimes tibiae, strongly mottled with dark brown. Antennal third segment, body beneath, and usually tibiae indistinctly brown-mottled. Pronotum on middle of disk with a vague, dark brownish, quadrate patch, sometimes wanting. Scutellum indistinctly tinged with brownish. Elytra nearly uniformly pubescent, sometimes very faintly sprinkled with widely separated brown flecks and medially often with a scarcely discernable inverted 'V' of slightly whiter pubescence. Antennal segments from third with apical fourths or thirds fuscous annulate, the bases of fourth and following segments rather narrowly semi-annulate with fuscous.

Entire upper surface minutely alutaceous. Head with front one-tenth wider than high, nearly parallel-sided except below eyes where it is strongly narrowed, distinctly tumid, impunctate; eye with lower lobe nearly one-fourth again as tall as gena, ob-

long, erect. Pronotum nearly one-half again as wide across lateral tubercles as long, basal fourth feebly narrowed; lateral tubercles placed at basal two-fifths, prominent, armed with a long, robust, strongly recurved tooth; disk with three small, rather indistinct tubercles, the median one a little more prominent, surface irregularly, moderately densely punctate, the punctures fine, somewhat more closely placed on basal sixth, nearly entirely wanting on sides of disk and on extreme sides apically and below lateral tubercles. Elytra with basal gibbosity feebly prominent, elongate, with a prominent, robust, cariniform crest which is usually devoid of tubercles; disk moderately finely punctate, the punctures not densely placed, a little more close-set behind basal fourth in an area along suture to about middle of length, with one or two quite faint costae apically; apices broadly, obliquely truncate at suture, the outer angle sometimes slightly prominent. Metafemora attaining middle of fifth sternite, which is scarcely longer than fourth and broadly emarginate at apex. Antennae about one-third again as long as body, the seventh segment nearly attaining elytral apex, very sparsely fringed beneath with long hairs on first four segments; scape extending to basal third of pronotum, apical process broad, parallel-sided, its apex squarely truncate; third segment strongly arcuate, as long as first; fourth to sixth segments successively much shorter, the remainder gradually diminishing in length.

Female. Metafemora scarcely surpassing apex of fourth sternite; fifth sternite half again as long as fourth, its apex broadly truncate. Antennae scarcely shorter than in male, the third segment longer than the first.

Length 9.5–13 mm.; width 2.8–4.3 mm.

Holotype male and *allotype* female; Cuernavaca, Morelos, MEXICO [USNM]. *Paratypes*: 5; topotypic [USNM]. 4; Jacala, Hidalgo, July 4–18, 1939 [LL]. 1; topotypic, Aug. 7, 1938 (L. J. Liporski) [LL]. 1; Acapulco, Mex., June 22, 1935 (M. Cazier) [AMNH]. 1; Mexico [CAS].

Remarks: From *C. mexicanus* to which this species is very closely related, it is distinct in having the pubescence of the elytra nearly entirely uniformly brown-fulvous pubescent, lack-

ing all traces of whitish pubescence except sometimes for a faint inverted chevron which is present at the middle of each elytron. Moreover, the denser punctation of the elytra is confined to a narrower area behind the basal gibbosity along the suture; the basal gibbosity is less prominent and is armed with a narrower, more prominent crest. In addition, the spine of its pronotal lateral tubercles is more robust and more strongly arcuate posteriorly.

***Canidiopsis canescens* Dillon, spec. nov.**

Dectes mexicanus form *a* Bates, 1881, Biol. Centr. Amer., Col. V, p. 174, pl. 13, f. 6 [*ex parte*].

Female. Piceous, densely and uniformly covered with bright gray pubescence. Antennae with apices of third and following segments fuscous annulate, the annulation distinctly broader on segments 3-5, the bases of all segments from fourth narrowly semi-annulate with fuscous.

Head with front about one-fourth again as wide as high, slightly narrowed above between eyes and strongly so below toward mouth-parts, strongly tumid, impunctate; eye with lower lobe oblong, erect, one-fourth again as tall as gena. Pronotum two-fifths again as wide across lateral tubercles as long, basal fourth feebly narrowed; lateral tubercles feebly elevated, ending in a long, slender, slightly arcuate tooth, placed at basal third; disk tribuberculate, the median tubercle more prominent than the others, which are subobsolete, unevenly, finely punctate, the punctures a little denser toward base. Elytra with basal gibbosity feebly elevated, provided with a rather broad, untuberculated, cariniform crest that is very slightly arcuate; disk rather coarsely, sparsely punctate, the punctures absent from humerus, becoming finer but not denser to middle, thence to apex becoming still finer and denser as well; apices broadly, arcuately, and obliquely truncate at suture. Metafemora extending scarcely beyond apex of fourth abdominal sternite; fifth sternite about half again as long as fourth, its apex broadly truncate. Antennae about one-fifth longer than body, the eighth segment slightly surpassing elytral apex, with a very few long, flying

hairs beneath on first and third segments; scape attaining basal fourth of pronotum, feebly thickened to apex, apical process broad, parallel-sided, the apex squarely truncate; third segment nearly straight, as long as first; fourth and fifth successively much shorter; rest gradually diminishing in length.

Length 14 mm.; width 4.4 mm.

Holotype: Female; 3 mi. South of Tepic, Nayarit, MEXICO, Oct. 5, 1950 [USNM]. *Paratypes*: 1; Oropes, Mexico, Aug. 1945 (W. F. Foshag) [AMNH]. 5; Mezcala, Guerrero, June 29, 1951 (H. E. Evans) [CU].

Remarks: This species is closely related to *C. hebes* but is distinct in being uniformly bright gray pubescent; the elytral punctation does not become any denser until behind middle, the punctures being gradually finer from base to apex.

***Canidiopsis hebes* Dillon, spec. nov.**

Male. Piceous, smoothly covered with dense, fine, short, dull ashy or rarely brownish ashy pubescence. Antennae gray pubescent, apices of segments strongly fuscous annulate from third segment, the third to fifth more broadly so, and the extreme apices of all segments distinctly edged with gray, the bases of segments from fourth quite narrowly fuscous semi-annulate.

Entire upper surface densely, minutely alutaceous. Head with front one-fifth again as wide as long, strongly tumid; eye with lower lobe oblong, scarcely taller than gena. Pronotum one-fourth again as broad across lateral tubercles as long; lateral tubercles small but prominent, placed at basal two-fifths, armed with a slender, arcuately retrorse spine; disk with three tubercles, the median one larger and much more prominent, moderately finely, quite sparsely punctate; sides before tubercles punctate as disk, behind with a single row of punctures, and below those structures entirely devoid of punctation. Elytra with basal gibbosity having a subcariniform, elongate, slightly prominent crest; disk (but humeri impunctate) less densely but much more coarsely punctate than pronotum, the punctures denser behind basal gibbosity to apex, scarcely finer apically,

each with three rather indistinct costae, the two inner ones entire, the outer one variable, sometimes wanting; apices broadly, rather strongly obliquely truncate, the angles not produced. Metafemora reaching nearly to apex of fifth sternite, about equal to mesofemora in robustness. Antennae one-half again as long as body, with one or two long fringing hairs beneath on first two or three segments; scape attaining basal fifth of pronotum, apical process broad, parallel-sided, squarely truncate at apex; third segment scarcely longer than first, broadly arcuate, fourth, fifth, and sixth successively strongly shortened, remaining ones feebly so.

Female. As male but fifth sternite about half again as long as fourth; the metafemora attaining the apex of fourth sternite; antennae about one-third longer than body.

Length 11–13 mm.; width 3.3–4.0 mm.

Holotype male and *allotype* female: Cuernavaca, MEXICO [USNM]. *Paratypes*: 2; topotypic [USNM]. 1; Joyutha, Morelos, Mexico, Aug. 1903 (W. L. Tower) [AMNH]. 1; Guadalajara, Jalisco, 1901 (M. Dignet) [AMNH].

Remarks: In this species there is no maculation of any sort save the annulation of the antennae and the indistinct mottling of all the appendages. The antennal scape has the terminal process rather short but broad, parallel-sided, with its apex squarely truncate and flat. Moreover, the punctuation of the pronotum and elytra is distinctive.

Incertae Sedis

The following species, if the description of the scape (reported as being apically spined) is accurate, probably represents a new genus. Unfortunately, it is not represented among the material at hand.

Dectes spinicornis Bates, 1882, Biol. Centr. Amer., Col. V, p. 174.

"Related to *D. mexicana* but more elongate and more parallel. Elongate, subcylindrical, briefly sparsely setose, gray-fuscos, peppered with fuscous. Elytra each with a macula toward apex of black fuscous (anteriorly obliquely curved), margined with

ashy. Antennae slightly longer than body, finely pilose; scape beneath at apex acutely spinose, before spine strongly sinuate. Thorax cylindrical, lateral spine straight, placed well behind middle, disk uneven. Elytra crebrosely punctate, apices separately, acutely rounded.

"Length 6 lines. Mexico (Sturm).

"It differs from *mexicanus*, besides its more cylindrical shape and the markings of the elytra, by the antennae being rather densely clothed to apex with short hairs, and by the narrower and more acute spine of the antennal scape, which is besides preceded by a deep sinuation in the under surface." (A copy of the original description.)

A Chamber for Studies of Site-Selection by Elateridae

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In ecological studies on the choice of oviposition site by the eastern field wireworm (*Limonius agonus* Say) a need was discovered for a small, standard, easily cleaned oviposition chamber. Previously reported studies on the choice of oviposition site by adult click beetles have been made in soil flats and are not easily reproducible in the laboratory.

Rawlins (1937) indicated the satisfactory use of moist chambers in mating and oviposition studies. Dobrovsky (1953, 1954) has demonstrated the use of test tubes for similar studies of *Conoderus vagus* Candeze.

Lacroix (1934) used soil pans in studies on oviposition site selection by *Limonius agonus* Say. Gough and Evans (1942) indicated the use of soil boxes in studies of *Agriotes* spp.

No record was found in the literature of any small, standard, laboratory chambers being used in studies of oviposition site selection by elaterid beetles.

In 1952 and 1953 moist chambers were successfully used as oviposition chambers for adults of *Limonius agonus* Say. These